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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,336	09/30/2003	Makoto Tanaka	01-504	4040
23400	7590	12/29/2005	EXAMINER	
POSZ LAW GROUP, PLC 12040 SOUTH LAKES DRIVE SUITE 101 RESTON, VA 20191			TRAN, CHUC	
			ART UNIT	PAPER NUMBER
			2821	

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary

Application No.

10/673,336

Applicant(s)

TANAKA ET AL.

Examiner

Chuc D Tran

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 18-20 is/are rejected.
- 7) ☒ Claim(s) 13-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This is a response to the Applicants amendment submitted on October 13, 2005. In virtue of this amendment, claims 18-20 have been newly added. Thus, claims 1-20 are now remaining active in the instant application.

Response to Arguments

1. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "31" in Fig. 2, 11-12, 16, 18-21, 23-24 and 28-29 have been used to designate both "linear conductor bar" and "monopole antenna". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "first portion and second portion"

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in claim 19 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Allowable Subject Matter

4. The indicated allowability of claim 2 is withdrawn in view of the newly discovered reference(s) to Sievenpiper et al and Nichols et al. Rejections based on the newly cited reference(s) follow.

Claim Objections

5. Claim 1 is objected to because of the following informalities:

Claim 1, line 5, "provided on the surface of the substrate" change to - - provided above

the surface of the substrate - -.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 6, the Examiner does not understand how the second antenna works with the first antenna or the substrate sheet without connecting or coupling to them for the second antenna frequency band out of the band gap. Applicant is encouraged to implement this type of language in the interest of improving it's clarity.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-12 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sievenpiper et al (USP. 6,433,756) in view of Nichols et al (USP. 5,831,577).

Regarding claims 1-6, 8-12 and 18-20, Sievenpiper et al disclose a multiple frequency common antenna in Fig. 3, comprising:

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- a substrate sheet (30) comprising a conductor plate (14); a plurality plate (20) for electrically coupling the conductor plate and each small plate in the dielectric material layer (Fig. 3), a dielectric layer (12) (Fig. 1) having a band gap (BG) for prohibiting propagation of an electromagnetic wave on a surface in a particular frequency band (Sievenpiper et al. Col. 8, Line 22);

- a first L-shape antenna (10) has a feeding point (18) provided on the surface of the substrate sheet (30) for resonating in a first frequency band within the band gap (Sievenpiper et al. Col. 10, Line 10) (Fig. 5); and a dielectric material plate disposed on the surface of the substrate sheet (Fig. 3b), wherein the first antenna (10) is an element pattern formed on the surface opposing to the substrate sheet of the dielectric material plate (Fig. 3b). However, Nichols et al disclose GPS/radio antenna in Fig. 3 comprising a second monopole antenna (66) (Nichols, Fig. 3); a helical antenna (126) (Nichols, Fig. 5). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sievenpiper et al by forming Nichols's second monopole antenna (66) into Sievenpiper's first antenna (10) at the same feed point (18) (Sievenpiper's Fig. 3). The ordinary artisan would have been motivated to modify Sievenpiper in the manner described above by reducing or increasing a second monopole antenna length in order to provide a frequency band lower or higher side than the first frequency band.

Regarding claim 7, Sievenpiper disclose the multiple frequency common antenna as set forth in the claims except the first antenna is a hula-hoop. Thus, it would have been obvious to one of ordinary skill in the art to make the small metal antenna (10) by bending it shape into the hula-hoop shape in order to resonate the first frequency band within the band gap.

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Allowable Subject Matter

Claims 13-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuc D Tran whose telephone number is (571) 272-1829. The examiner can normally be reached on M-F Flex hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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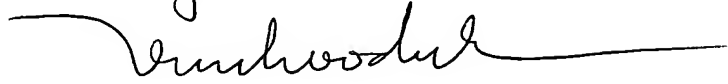
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Primary Examiner

TC

December 5, 2005

A handwritten signature in cursive script, appearing to read 'V. Wood', with a long horizontal flourish extending to the right.